



Transgenic myocardial model.ST25.txt  
SEQUENCE LISTING

<110> MOSS, Richard L.  
SANT'ANA PEREIRA, Jose A. A.

<120> Transgenic model for myocardial function

<130> 054030-0045

<140> 10/748,354

<141> 2003-12-30

<160> 33

<170> PatentIn version 3.3

<210> 1

<211> 10

<212> PRT

<213> Mus musculus

<400> 1

Ile Met Gly Phe Thr Glu Glu Glu Gln Thr  
1 5 10

<210> 2

<211> 10

<212> PRT

<213> Mus musculus

<400> 2

Ile Met Ser Phe Thr Glu Glu Glu Gln Thr  
1 5 10

<210> 3

<211> 64

<212> DNA

<213> Mus musculus

<400> 3

attgcagcca taggggaccg tagcaagaag gaaaatccta atgcaaaca gggcaccctg 60

gagg 64

<210> 4

<211> 21

<212> PRT

<213> Mus musculus

<400> 4

Ile Ala Ala Ile Gly Asp Arg Ser Lys Lys Glu Asn Pro Asn Ala Asn  
1 5 10 15

Lys Gly Thr Leu Glu  
20

Transgenic myocardial model.ST25.txt

<210> 5  
<211> 61  
<212> DNA  
<213> Sus sp.

<400> 5  
attgctgccattggggaccg cagcaagaag gaccagaccc caggcaaggg caccttggaag 60  
g 61

<210> 6  
<211> 20  
<212> PRT  
<213> Sus sp.

<400> 6  
Ile Ala Ala Ile Gly Asp Arg Ser Lys Lys Asp Gln Thr Pro Gly Lys  
1 5 10 15

Gly Thr Leu Glu  
20

<210> 7  
<211> 70  
<212> DNA  
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gtcataggct 70

<210> 8  
<211> 17  
<212> PRT  
<213> Gallus sp.

<400> 8  
Glu Lys Lys Lys Glu Glu Gln Ser Gly Lys Met Gln Gly Thr Leu Glu  
1 5 10 15

Asp

<210> 9  
<211> 18  
<212> PRT  
<213> Homo sapiens/Sus sp.

<400> 9  
Glu Lys Lys Lys Glu Glu Pro Thr Ser Gly Lys Met Gln Gly Thr Leu  
1 5 10 15

Transgenic myocardial model.ST25.txt

Glu Asp

<210> 10  
<211> 18  
<212> PRT  
<213> Homo sapiens

<400> 10

Glu Lys Lys Lys Glu Glu Val Thr Ser Gly Lys Met Gln Gly Thr Leu  
1 5 10 15

Glu Asp

<210> 11  
<211> 18  
<212> PRT  
<213> Sylvilagus sp.

<400> 11

Asp Lys Lys Lys Glu Glu Ala Thr Ser Gly Lys Met Gln Gly Thr Leu  
1 5 10 15

Glu Asp

<210> 12  
<211> 18  
<212> PRT  
<213> Sylvilagus sp.

<400> 12

Asp Lys Lys Lys Glu Glu Pro Thr Pro Gly Lys Met Gln Gly Thr Leu  
1 5 10 15

Glu Asp

<210> 13  
<211> 17  
<212> PRT  
<213> Homo sapiens

<400> 13

Asp Arg Ser Lys Lys Asp Asn Ala Asn Ala Asn Lys Gly Thr Leu Glu  
1 5 10 15

Asp

Transgenic myocardial model.ST25.txt

<210> 14  
 <211> 17  
 <212> PRT  
 <213> Rattus norvegicus

<400> 14

Asp Arg Ser Lys Lys Asp Asn Pro Asn Ala Asn Lys Gly Thr Leu Glu  
 1 5 10 15

Asp

<210> 15  
 <211> 17  
 <212> PRT  
 <213> Mus musculus

<400> 15

Asp Arg Ser Lys Lys Glu Asn Pro Asn Ala Asn Lys Gly Thr Leu Glu  
 1 5 10 15

Asp

<210> 16  
 <211> 16  
 <212> PRT  
 <213> Homo sapiens

<400> 16

Asp Arg Ser Lys Lys Asp Gln Ser Pro Gly Lys Gly Thr Leu Glu Asp  
 1 5 10 15

<210> 17  
 <211> 16  
 <212> PRT  
 <213> Sus sp.

<400> 17

Asp Arg Ser Lys Lys Asp Gln Thr Pro Gly Lys Gly Thr Leu Glu Asp  
 1 5 10 15

<210> 18  
 <211> 16  
 <212> PRT  
 <213> Rattus norvegicus

<400> 18

Asp Arg Ser Lys Lys Asp Gln Thr Pro Gly Lys Gly Thr Leu Glu Asp  
 1 5 10 15

Transgenic myocardial model.ST25.txt

<210> 19  
 <211> 40  
 <212> PRT  
 <213> Gallus gallus

<400> 19

Ser Glu Gly Glu Ile Thr Val Pro Ser Ile Asp Asp Gln Glu Glu Leu  
 1 5 10 15

Met Ala Thr Asp Ser Ala Ile Asp Ile Leu Gly Phe Ser Ala Asp Glu  
 20 25 30

Thr Ala Ile Tyr Leu Thr Gly Ala  
 35 40

<210> 20  
 <211> 42  
 <212> PRT  
 <213> Rattus norvegicus

<400> 20

Ser Gln Gly Glu Thr Thr Val Ala Ser Ile Asp Asp Ser Glu Glu His  
 1 5 10 15

Met Ala Thr Asp Ser Ala Phe Asp Val Leu Gly Phe Thr Pro Glu Glu  
 20 25 30

Lys Asn Ser Ile Tyr Lys Leu Thr Gly Ala  
 35 40

<210> 21  
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 <212> PRT  
 <213> Homo sapiens

<400> 21

Ser Gln Gly Glu Thr Thr Val Ala Ser Ile Asp Asp Ala Glu Glu Leu  
 1 5 10 15

Met Ala Thr Asp Asn Ala Phe Asp Val Leu Gly Phe Thr Ser Glu Glu  
 20 25 30

Asn Ser Met Tyr Leu Thr Gly Ala  
 35 40

<210> 22  
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 <212> PRT  
 <213> Sus sp.

Transgenic myocardial model.ST25.txt

<400> 22

Ser Gln Gly Glu Thr Thr Val Ala Ser Ile Asp Asp Ala Glu Glu Leu  
1 5 10 15

Met Ala Thr Asp Asn Ala Phe Asp Val Leu Gly Phe Thr Ser Glu Glu  
20 25 30

Asn Ser Met Tyr Leu Thr Gly Ala  
35 40

<210> 23

<211> 40

<212> PRT

<213> Rattus norvegicus

<400> 23

Ser Gln Gly Glu Val Ser Val Ala Ser Ile Asp Asp Ser Glu Glu Leu  
1 5 10 15

Leu Ala Thr Asp Ser Ala Phe Asp Val Leu Gly Phe Thr Ala Glu Glu  
20 25 30

Ala Gly Val Tyr Leu Thr Gly Ala  
35 40

<210> 24

<211> 40

<212> PRT

<213> Mus musculus

<400> 24

Ser Gln Gly Glu Val Ser Val Ala Ser Ile Asp Asp Ser Glu Glu Leu  
1 5 10 15

Leu Ala Thr Asp Ser Ala Phe Asp Val Leu Ser Phe Thr Ala Glu Glu  
20 25 30

Ala Gly Val Tyr Leu Thr Gly Ala  
35 40

<210> 25

<211> 41

<212> PRT

<213> Sylvilagus sp.

<400> 25

Ser Glu Gly Glu Ile Thr Val Pro Ser Ile Asp Asp Ser Glu Glu Leu  
1 5 10 15

Transgenic myocardial model.ST25.txt

Met Ala Thr Asp Ser Ala Ile Asp Ile Leu Gly Phe Thr Ser Asp Glu  
20 25 30

Arg Val Ser Ile Tyr Leu Thr Gly Ala  
35 40

<210> 26  
<211> 13  
<212> PRT  
<213> Mus musculus

<400> 26

Ala Ser Ile Asp Asp Ser Glu Glu Leu Leu Ala Thr Asp  
1 5 10

<210> 27  
<211> 13  
<212> PRT  
<213> Sus sp.

<400> 27

Ala Ser Ile Asp Asp Ser Glu Glu Leu Met Ala Thr Asp  
1 5 10

<210> 28  
<211> 13  
<212> PRT  
<213> Rattus norvegicus

<400> 28

Ala Ser Ile Asp Asp Ser Glu Glu His Met Ala Thr Asp  
1 5 10

<210> 29  
<211> 16  
<212> PRT  
<213> Mus musculus

<400> 29

Ser Ala Phe Asp Val Leu Ser Phe Thr Ala Glu Glu Lys Ala Gly Val  
1 5 10 15

<210> 30  
<211> 16  
<212> PRT  
<213> Sus sp.

<400> 30

Asn Ala Phe Asp Val Leu Gly Phe Thr Ala Glu Glu Lys Asn Gly Val  
1 5 10 15

Transgenic myocardial model.ST25.txt

<210> 31  
 <211> 16  
 <212> PRT  
 <213> Rattus norvegicus

<400> 31

Ser Ala Phe Asp Val Leu Gly Phe Thr Pro Glu Glu Lys Ala Ser Ile  
 1 5 10 15

<210> 32  
 <211> 828  
 <212> PRT  
 <213> Mus musculus

<400> 32

Met Thr Asp Ala Gln Met Ala Asp Phe Gly Ala Ala Arg Tyr Leu Arg  
 1 5 10 15

Lys Ser Glu Lys Glu Arg Leu Glu Ala Gln Thr Arg Pro Phe Asp Ile  
 20 25 30

Arg Thr Glu Cys Phe Val Pro Asp Asp Lys Glu Glu Tyr Val Lys Ala  
 35 40 45

Lys Ile Val Ser Arg Glu Gly Gly Lys Val Thr Ala Glu Thr Glu Asn  
 50 55 60

Gly Lys Thr Val Thr Val Lys Glu Asp Gln Val Met Gln Gln Asn Pro  
 65 70 75 80

Pro Lys Phe Asp Lys Ile Glu Asp Met Ala Met Leu Cys His Thr Phe  
 85 90 95

Leu His Glu Pro Ala Val Leu Tyr Asn Leu Lys Glu Arg Tyr Ala Ala  
 100 105 110

Trp Met Ile Tyr Thr Tyr Ser Gly Leu Phe Cys Val Thr Val Asn Pro  
 115 120 125

Tyr Lys Trp Leu Pro Val Tyr Asn Ala Glu Val Val Ala Ala Tyr Arg  
 130 135 140

Gly Lys Lys Arg Ser Glu Ala Pro Pro His Ile Phe Ser Ile Ser Asp  
 145 150 155 160

Asn Ala Tyr Gln Tyr Met Leu Thr Asp Arg Glu Asn Gln Ser Ile Leu  
 165 170 175



Transgenic myocardial model.ST25.txt

Ile Thr Gly Glu Ser Gly Ala Gly Lys Thr Val Asn Thr Lys Arg Val  
180 185 190

Ile Gln Tyr Phe Ala Ser Ile Ala Ala Ile Gly Asp Arg Ser Lys Lys  
195 200 205

Asp Asn Pro Asn Lys Gly Thr Leu Glu Asp Gln Ile Ile Gln Ala Asn  
210 215 220

Pro Ala Leu Glu Ala Phe Gly Asn Ala Lys Thr Val Arg Asn Asp Asn  
225 230 235 240

Ser Ser Arg Phe Gly Lys Phe Ile Arg Ile His Phe Gly Ala Thr Gly  
245 250 255

Lys Leu Ala Ser Ala Asp Ile Glu Thr Glu Lys Ser Arg Val Ile Phe  
260 265 270

Gln Leu Lys Ala Glu Arg Asn Tyr His Ile Phe Tyr Gln Ile Leu Ser  
275 280 285

Asn Lys Lys Pro Glu Leu Leu Asp Met Leu Leu Val Thr Asn Asn Pro  
290 295 300

Tyr Asp Tyr Ala Phe Val Ser Gln Gly Glu Val Ser Val Ala Ser Ile  
305 310 315 320

Asp Asp Ser Glu Glu Leu Leu Ala Thr Asp Ser Ala Phe Asp Val Leu  
325 330 335

Gly Phe Thr Ala Glu Glu Lys Ala Gly Val Tyr Lys Leu Thr Gly Ala  
340 345 350

Ile Met His Tyr Gly Asn Met Lys Phe Lys Gln Lys Gln Arg Glu Glu  
355 360 365

Gln Ala Glu Pro Asp Gly Thr Glu Asp Ala Asp Lys Ser Ala Tyr Leu  
370 375 380

Met Gly Leu Asn Ser Ala Asp Leu Leu Lys Gly Leu Cys His Pro Arg  
385 390 395 400

Val Lys Val Gly Asn Glu Tyr Val Thr Lys Gly Gln Ser Val Gln Gln  
405 410 415

Val Tyr Tyr Ser Ile Gly Ala Leu Ala Lys Ser Val Tyr Glu Lys Met  
420 425 430

Transgenic myocardial model.ST25.txt

Phe Asn Trp Met Val Thr Arg Ile Asn Ala Thr Leu Glu Thr Lys Gln  
 435 440 445  
 Pro Arg Gln Tyr Phe Ile Gly Val Leu Asp Ile Ala Gly Phe Glu Ile  
 450 455 460  
 Phe Asp Phe Asn Ser Phe Glu Gln Leu Cys Ile Asn Phe Thr Asn Glu  
 465 470 475 480  
 Lys Leu Gln Gln Phe Phe Asn His His Met Phe Val Leu Glu Gln Glu  
 485 490 495  
 Glu Tyr Lys Lys Glu Gly Ile Glu Trp Glu Phe Ile Asp Phe Gly Met  
 500 505 510  
 Asp Leu Gln Ala Cys Ile Asp Leu Ile Glu Lys Pro Met Gly Ile Met  
 515 520 525  
 Ser Ile Leu Glu Glu Glu Cys Met Phe Pro Lys Ala Thr Asp Met Thr  
 530 535 540  
 Phe Lys Ala Lys Leu Tyr Asp Asn His Leu Gly Lys Ser Asn Asn Phe  
 545 550 555 560  
 Gln Lys Pro Arg Asn Val Lys Gly Lys Gln Glu Ala His Phe Ser Leu  
 565 570 575  
 Val His Tyr Ala Gly Thr Val Asp Tyr Asn Ile Leu Gly Trp Leu Glu  
 580 585 590  
 Lys Asn Lys Asp Pro Leu Asn Glu Thr Val Val Gly Leu Tyr Gln Lys  
 595 600 605  
 Ser Ser Leu Lys Leu Met Ala Thr Leu Phe Ser Thr Tyr Ala Ser Ala  
 610 615 620  
 Asp Thr Gly Asp Ser Gly Lys Gly Lys Gly Gly Lys Lys Lys Gly Ser  
 625 630 635 640  
 Ser Phe Gln Thr Val Ser Ala Leu His Arg Glu Asn Leu Asn Lys Leu  
 645 650 655  
 Met Thr Asn Leu Arg Thr Thr His Pro His Phe Val Arg Cys Ile Ile  
 660 665 670  
 Pro Asn Glu Arg Lys Ala Pro Gly Val Met Asp Asn Pro Leu Val Met  
 675 680 685

Transgenic myocardial model.ST25.txt

His Gln Leu Arg Cys Asn Gly Val Leu Glu Gly Ile Arg Ile Cys Arg  
690 695 700

Lys Gly Phe Pro Asn Arg Ile Leu Tyr Gly Asp Phe Arg Gln Arg Tyr  
705 710 715 720

Arg Ile Leu Asn Pro Ala Ala Ile Pro Glu Gly Gln Phe Ile Asp Ser  
725 730 735

Gly Lys Gly Ala Glu Lys Leu Leu Gly Ser Leu Asp Ile Asp His Asn  
740 745 750

Gln Tyr Lys Phe Gly His Thr Lys Val Phe Phe Lys Ala Gly Leu Leu  
755 760 765

Gly Leu Leu Glu Glu Met Arg Asp Glu Arg Leu Ser Arg Ile Thr Arg  
770 775 780

Ile Gln Ala Gln Ala Arg Gly Gln Leu Met Arg Ile Glu Phe Lys Lys  
785 790 795 800

Met Val Glu Arg Arg Asp Ala Leu Leu Val Ile Gln Trp Asn Ile Arg  
805 810 815

Ala Phe Met Gly Val Lys Asn Trp Pro Trp Met Lys  
820 825

<210> 33  
<211> 829  
<212> PRT  
<213> Mus musculus

<400> 33

Met Thr Asp Ala Gln Met Ala Asp Phe Gly Ala Ala Ala Gln Tyr Leu  
1 5 10 15

Arg Lys Ser Glu Lys Glu Arg Leu Glu Ala Gln Thr Arg Pro Phe Asp  
20 25 30

Ile Arg Thr Glu Cys Phe Val Pro Asp Asp Lys Glu Glu Tyr Val Lys  
35 40 45

Ala Lys Ile Val Ser Arg Glu Gly Gly Lys Val Thr Ala Glu Thr Glu  
50 55 60

Asn Gly Lys Thr Val Thr Val Lys Glu Asp Gln Val Met Gln Gln Asn  
65 70 75 80

Transgenic myocardial model.ST25.txt

Pro Pro Lys Phe Asp Lys Ile Glu Asp Met Ala Met Leu Cys His Thr  
85 90 95

Phe Leu His Glu Pro Ala Val Leu Tyr Asn Leu Lys Glu Arg Tyr Ala  
100 105 110

Ala Trp Met Ile Tyr Thr Tyr Ser Gly Leu Phe Cys Val Thr Val Asn  
115 120 125

Pro Tyr Lys Trp Leu Pro Val Tyr Asn Ala Glu Val Val Ala Ala Tyr  
130 135 140

Arg Gly Lys Lys Arg Ser Glu Ala Pro Pro His Ile Phe Ser Ile Ser  
145 150 155 160

Asp Asn Ala Tyr Gln Tyr Met Leu Thr Asp Arg Glu Asn Gln Ser Ile  
165 170 175

Leu Ile Thr Gly Glu Ser Gly Ala Gly Lys Thr Val Asn Thr Lys Arg  
180 185 190

Val Ile Gln Tyr Phe Ala Ser Ile Ala Ala Ile Gly Asp Arg Ser Lys  
195 200 205

Lys Asp Asn Pro Asn Lys Gly Thr Leu Glu Asp Gln Ile Ile Gln Ala  
210 215 220

Asn Pro Ala Leu Glu Ala Phe Gly Asn Ala Lys Thr Val Arg Asn Asp  
225 230 235 240

Asn Ser Ser Arg Phe Gly Lys Phe Ile Arg Ile His Phe Gly Ala Thr  
245 250 255

Gly Lys Leu Ala Ser Ala Asp Ile Glu Thr Glu Lys Ser Arg Val Ile  
260 265 270

Phe Gln Leu Lys Ala Glu Arg Asn Tyr His Ile Phe Tyr Gln Ile Leu  
275 280 285

Ser Asn Lys Lys Pro Glu Leu Leu Asp Met Leu Leu Val Thr Asn Asn  
290 295 300

Pro Tyr Asp Tyr Ala Phe Val Ser Gln Gly Glu Val Ser Val Ala Ser  
305 310 315 320

Ile Asp Asp Ser Glu Glu Leu Leu Ala Thr Asp Ser Ala Phe Asp Val

Leu Ser Phe Thr Ala Glu Glu Lys Ala Gly Val Tyr Lys Leu Thr Gly  
340 345 350

Ala Ile Met His Tyr Gly Asn Met Lys Phe Lys Gln Lys Gln Arg Glu  
355 360 365

Glu Gln Ala Glu Pro Asp Gly Thr Glu Asp Ala Asp Lys Ser Ala Tyr  
370 375 380

Leu Met Gly Leu Asn Ser Ala Asp Leu Leu Lys Gly Leu Cys His Pro  
385 390 395 400

Arg Val Lys Val Gly Asn Glu Tyr Val Thr Lys Gly Gln Ser Val Gln  
405 410 415

Gln Val Tyr Tyr Ser Ile Gly Ala Leu Ala Lys Ser Val Tyr Glu Lys  
420 425 430

Met Phe Asn Trp Met Val Thr Arg Ile Asn Ala Thr Leu Glu Thr Lys  
435 440 445

Gln Pro Arg Gln Tyr Phe Ile Gly Val Leu Asp Ile Ala Gly Phe Glu  
450 455 460

Ile Phe Asp Phe Asn Ser Phe Glu Gln Leu Cys Ile Asn Phe Thr Asn  
465 470 475 480

Glu Lys Leu Gln Gln Phe Phe Asn His His Met Phe Val Leu Glu Gln  
485 490 495

Glu Glu Tyr Lys Lys Glu Gly Ile Glu Trp Glu Phe Ile Asp Phe Gly  
500 505 510

Met Asp Leu Gln Ala Cys Ile Asp Leu Ile Glu Lys Pro Met Gly Ile  
515 520 525

Met Ser Ile Leu Glu Glu Glu Cys Met Phe Pro Lys Ala Thr Asp Met  
530 535 540

Thr Phe Lys Ala Lys Leu Tyr Asp Asn His Leu Gly Lys Ser Asn Asn  
545 550 555 560

Phe Gln Lys Pro Arg Asn Val Lys Gly Lys Gln Glu Ala His Phe Ser  
565 570 575

Transgenic myocardial model.ST25.txt

Leu Val His Tyr Ala Gly Thr Val Asp Tyr Asn Ile Leu Gly Trp Leu  
580 585 590

Glu Lys Asn Lys Asp Pro Leu Asn Glu Thr Val Val Gly Leu Tyr Gln  
595 600 605

Lys Ser Ser Leu Lys Leu Met Ala Thr Leu Phe Ser Thr Tyr Ala Ser  
610 615 620

Ala Asp Thr Gly Asp Ser Gly Lys Gly Lys Gly Gly Lys Lys Lys Gly  
625 630 635 640

Ser Ser Phe Gln Thr Val Ser Ala Leu His Arg Glu Asn Leu Asn Lys  
645 650 655

Leu Met Thr Asn Leu Arg Thr Thr His Pro His Phe Val Arg Cys Ile  
660 665 670

Ile Pro Asn Glu Arg Lys Ala Pro Gly Val Met Asp Asn Pro Leu Val  
675 680 685

Met His Gln Leu Arg Cys Asn Gly Val Leu Glu Gly Ile Arg Ile Cys  
690 695 700

Arg Lys Gly Phe Pro Asn Arg Ile Leu Tyr Gly Asp Phe Arg Gln Arg  
705 710 715 720

Tyr Arg Ile Leu Asn Pro Ala Ala Ile Pro Glu Gly Gln Phe Ile Asp  
725 730 735

Ser Arg Lys Gly Ala Glu Lys Leu Leu Gly Ser Leu Asp Ile Asp His  
740 745 750

Asn Gln Tyr Lys Phe Gly His Thr Lys Val Phe Phe Lys Ala Gly Leu  
755 760 765

Leu Gly Leu Leu Glu Glu Met Arg Asp Glu Arg Leu Ser Arg Ile Thr  
770 775 780

Arg Ile Gln Ala Gln Ala Arg Gly Gln Leu Met Arg Ile Glu Phe Lys  
785 790 795 800

Lys Met Val Glu Arg Arg Asp Ala Leu Leu Val Ile Gln Trp Asn Ile  
805 810 815

Arg Ala Phe Met Gly Val Lys Asn Trp Pro Trp Met Lys  
820 825

Transgenic myocardial model.ST25.txt